1941 N.D. - doc. 0288

Field Notes

Summer 1941

S. Dak. — Grand River Area
(Ist Year)

No. Dak. — Knife River Area
(Ist Year)

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THIS BOOK CONTAINS EYE-EASE PAPER

"Easy on the Eyes"

doc. 288

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North Dakota. 1941

[K.M. Waage]

N. South Dakota,

Cobbins dope on N.D. Section (Get from Steve)
S.E. of Bullhead.

Mobridge member of Pierre:- Dark calcareous clay shale. Weathers in chunky masses, bluish on fairly fresh slopes - goes to buff on thorough weathering. Contains group of bentonites. Set of 3 in upper part:- green-yellow-green, about 1" ± each and about 1½" apart. Baculites grandis in shale. Some conc. zones, upper one barren.

Elk Butte member of Pierre

Non calcareous clay shale weathering grey on slopes. Barren. Iron conc. in

upper part. No Bentonites.

Elk Butte is not Pierre-Fox Hills transition member.

Transition Beds. (60±

Sandy shale with dark shale partings. Contact with Elk Butte member of Pierre marked by "yellow zone." Yellow zone has sulphur colored streaks in blue-grey-clay shale. Fossiliferous concs come in above yellow zone. Cerumbla concs with little Spheno other ammonites etc come in above.

Color of transition - definitely buff on weathering. Fresh exposures also buff colored due to sand content.

Cobbins dope on Colgate-Cannonball section N. of Cannonball river, East of Broien.

Colgate S.S. — 40 feet of typical Colgate exposed in cut of Cannonball river.

Colgate-Hell Creek contact. — Bentonite on top of last Colgate sand. Contains upright tree stumps. Lignitic shale, purplish overlies this setup with local disconformity.

Hell Creek - includes 'marine' member near base. This consists of a buff glauconitic S.S. of F.H. Type bearing Halymenites (Oysters in some

areas.

Rest of Hell Creek consists of drab gray-brown carbonaceous shales weathering light blue-gray. These broken by thin zones of purple to black, small, very hard ironstone concretions. Shales include dinosaur bones, some poor lignite, no coal. (Differs quite a bit from Lance in lack of sandy beds + log concretions) also differs from Hell Creek of Meade, Zeisbach etc. counties in S. D.)

Hell Creek - Ludlow contact.

Drawn by Cobban at base of massive white sand, 2-3 ft thick grading upward into yellow drab S.S. above these come lignitic shales bearing F.V. flora. Coal beds present.

Cannonball:- Lower shale member and "greensand" members present in section. Shales grade into fossiliferous buff ss. capped by ironstained conc. layer. Greensand above has 2 barren conc. zones in it. Concs in this zone flat ellipsoidal 'calcareous' type common in upper Pierre + Transition beds. Holyoketes in greensand.

North Dakota

Stolley Longlake – Linton Section on U.S. 83 + vicinity. (Not measured – see Stolley estimated general section.)

Linton.

Stream cut in Municipal Park exposes Pierre section.

50'± of Elk Butte? Greyclay shale with 1 or 2 'yellowstreaks' + possibly one or 2 bentonites, no concretions. Barren

10'± Buff sandy shale, sand beds, + shale partings. Basal 2' = 'yellow zone' at Elk Butte – Transition contact. 1½' above comes barren conc. zone of hard 'cals' ellipsoidal conc. 4 to 6 ft above conc. zone of sandy

reddish flaky cones. bearing Gervillia.

25-30' — grass covered slope to base of 'white bed.'

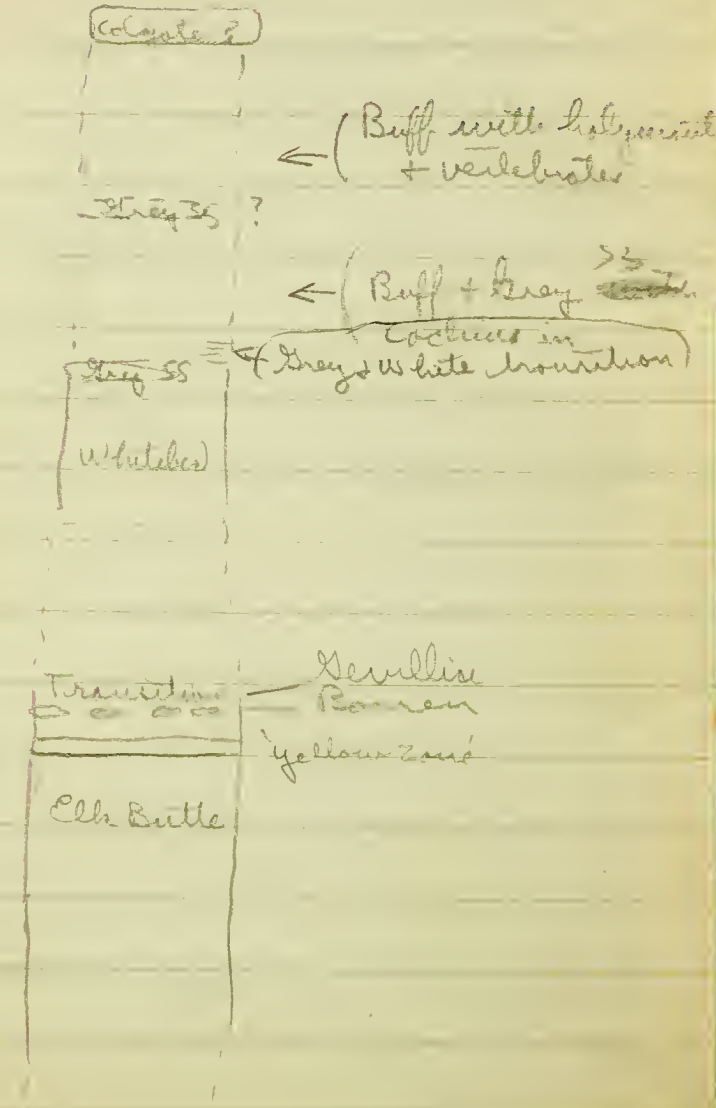
(Nicolleti zone may occur in this interval. one cone found on slope below 'yellow zone'. On Rt 83 another found near 'yellow zone'. Niether definitely in place. Cones of flaky grey S.S. shell and black calcareous core. Nicolleti + Mondanensis?)

On U.S. 83 S. of Linton. section on grass slope above brown sandy shales mottled grey buff in lower 8'. No concretions.

20' – White Bed. (Sampled)
Porcellanic very fine grained dead white clayey substance massive on fresh surface. Weathered surface shows bedding. Persistent in Linton area. Overlain by hard grey sandstone.

N. of Linton. Pieced section shows Cliff (greensand) over sand coming in over White bed. Also grey even bedded soft sands with local cochium. No marine fossils, no typical F.H. corals. Shells of cobina show reworking. This part of section resembles upper branded F.H.

Composite.


Colorado ?
Buff with hot gravel + vertebrates
Grey 35 ?
Buff + Grey
Contact in
Grey & White Formation
Grey 55
(White beds)
Transitional
Denbigh
Basin
Yellow Zone
Elk Butte

Just south of Long Lake first cut on U.S. 83. Dense buff SS with great numbers of Ostrea. Position is just geographically below capping grey white SS mentioned below.

Top of section is hard persistent (Soap) grey white SS 2-3' thick capping knob east of road. Between this and top of White Bed comes banded Fox Hills of 2 types.

1. Found about 10 feet above white bed is grey + buff S.S. with isolated. Some cochina. No Cones or marine fossils.

2. Banded F.H. Buff weathering

S.S., grey micaceous - buff to limonitic shrubs. Real weathering clusters of Halysmite & red sandy zones cut round at varying intervals. First cut S. of Long Lake contains great deal of vertebrate remains.

Test. list.

Shark teeth
Reptile teeth + bone frag?
Turtle frags
Fish vertebra

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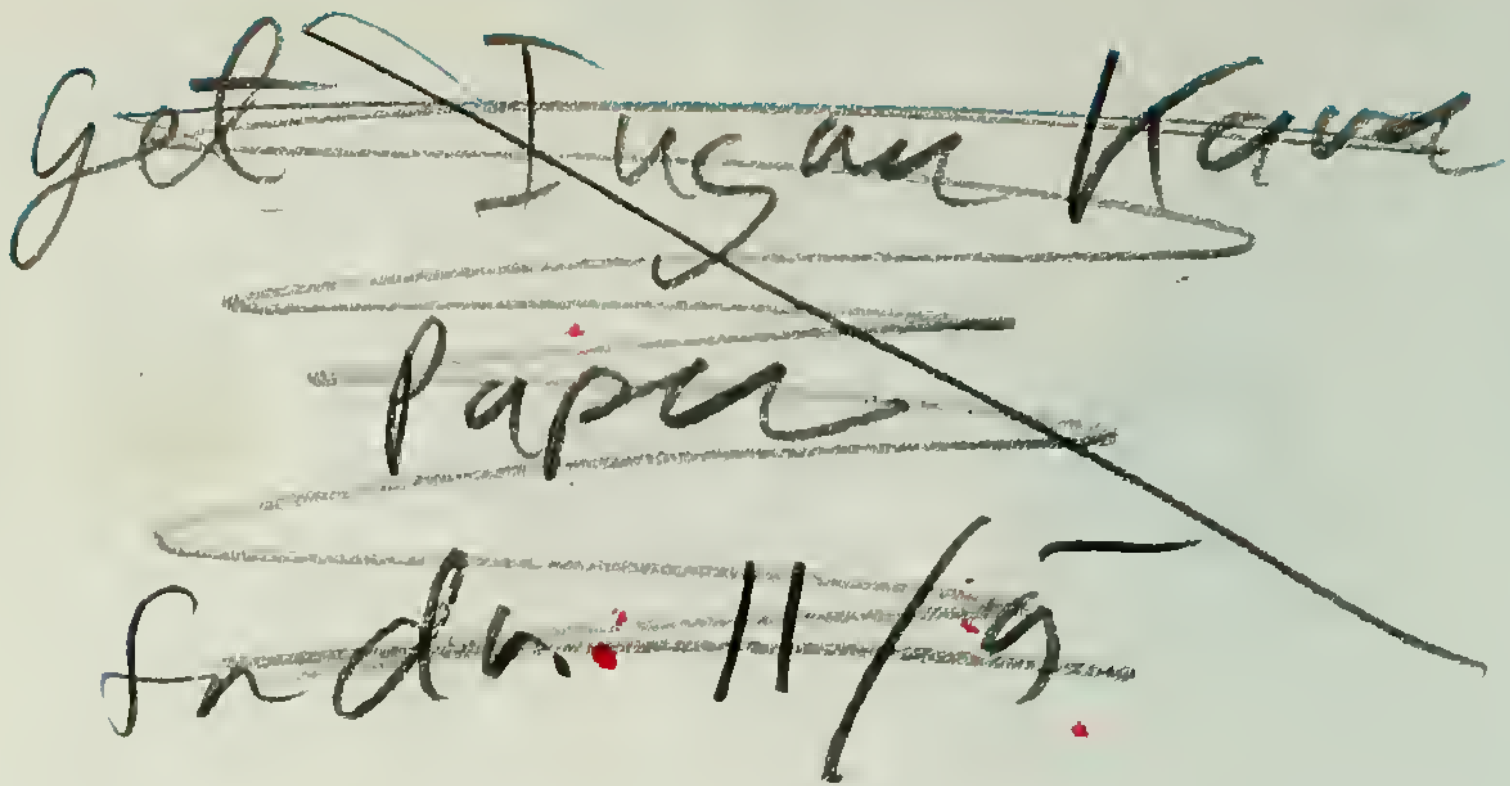
Linton "2"

N & E of Linton

in Greensand.


got Jugan Kaur
paper
fr dr. 11/5

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material was at Princeton but probably came to Yale in 1985 along with the Vert. fossils that were given to Yale.

KMW assigned his post-1956 localities nos. to the material, and this material should have same Accn. #.

CM, 1989

7048

ACCESSION CATALOGUE, PEABODY MUSEUM (INVERT. PALEO.), YALE UNIV.

DATE REC'D.....ACC. NO.

NATURE OF MATERIAL.....

.....

REC'D FROM.....HOW OBTAINED.....

ADDRESS.....

CORRESPONDENCE.....

COLLECTOR(S).....WHEN COLLECTED.....

FIELD NOTES.....

COLLECTION OR LOCALITY NOS.....

.....

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REMARKS.....

ENTERED BY.....DATE.....

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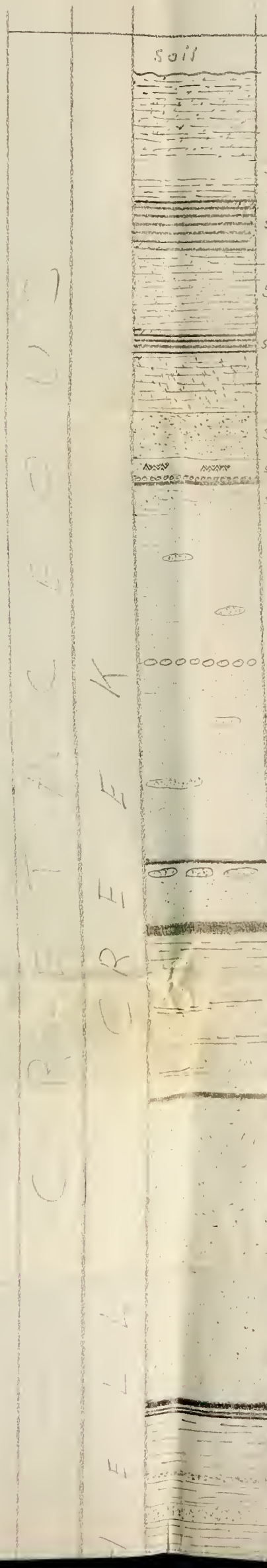
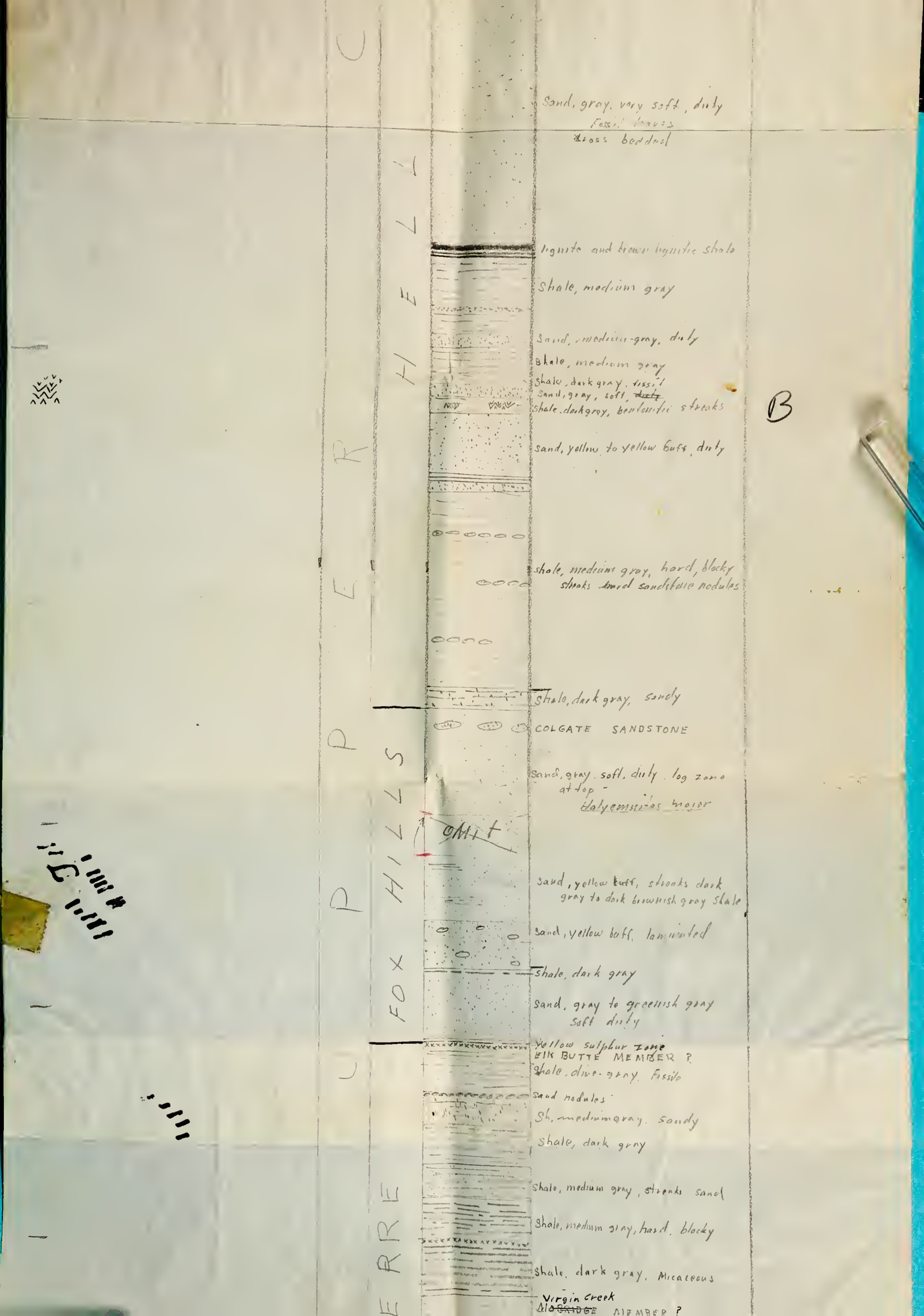
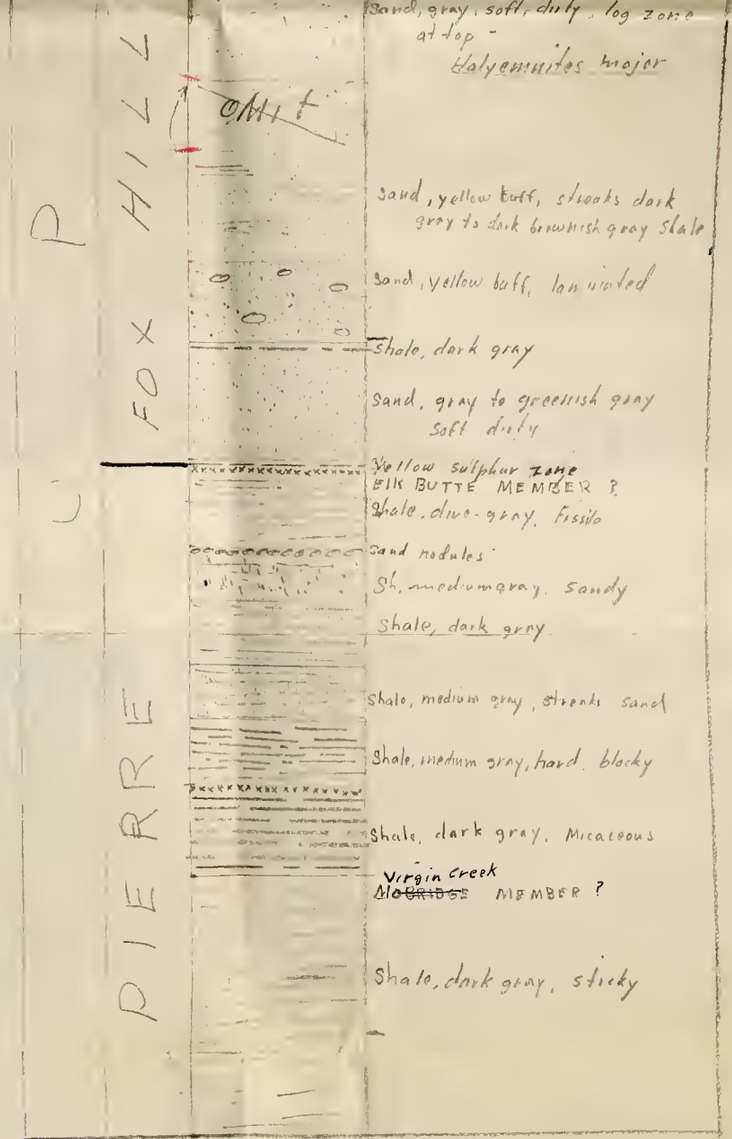
COMPOSITE SURFACE SECTION

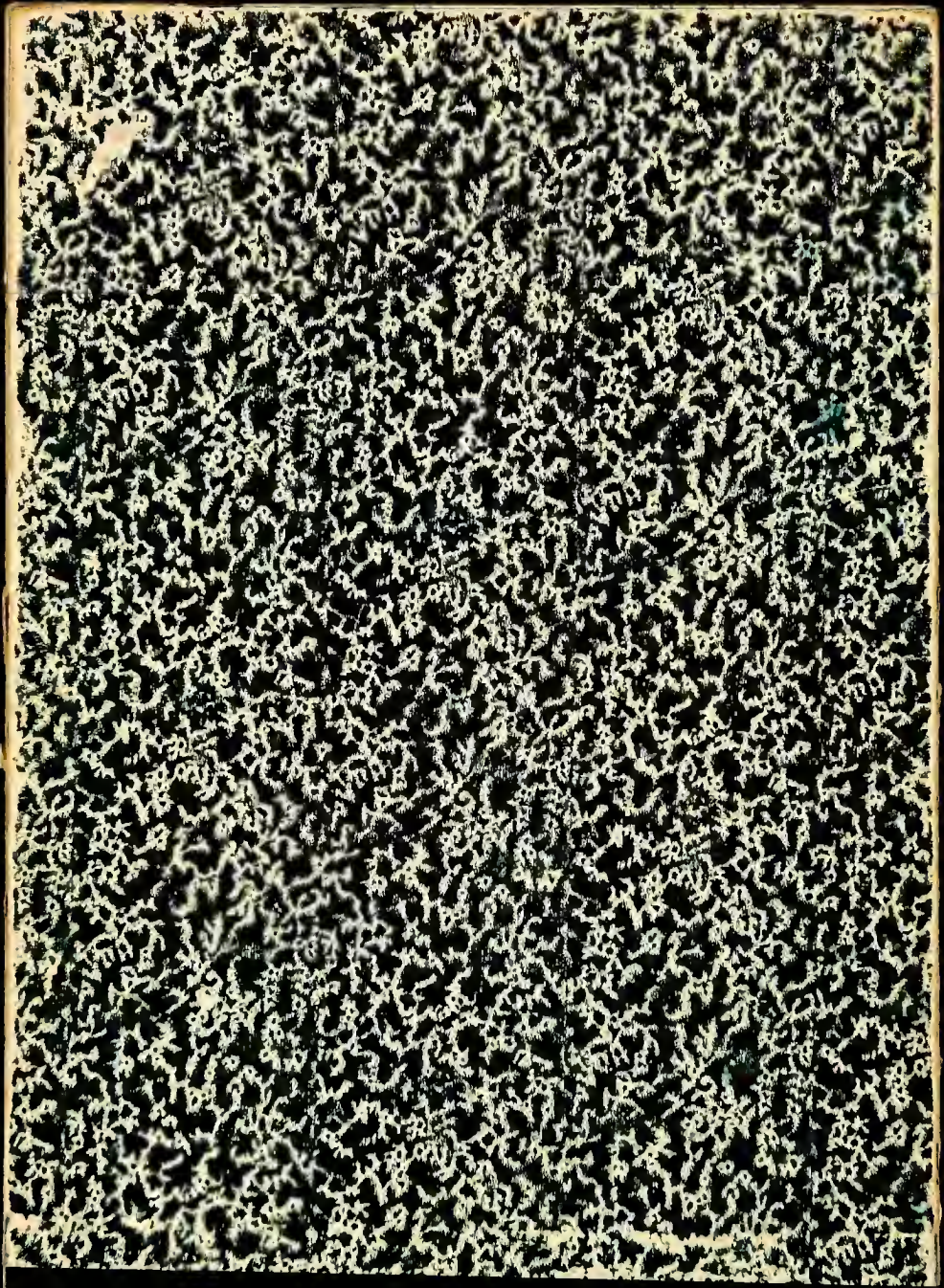
1" = 20'




Sand, gray, very soft, dirty
fossil leaves
cross bedded
lignite and brown lignitic shale
Shale, medium gray
Sand, medium-gray, dirty
Shale, medium gray
Shale, dark gray, fissil
Sand, gray, soft, dirty
Shale, dark gray, bentonitic streaks
sand, yellow to yellow buff, dirty
shale, medium gray, hard, blocky
streaks tuffaceous sandstone nodules
Shale, dark gray, sandy
COLGATE SANDSTONE
Sand, gray, soft, dirty, log zone at top
Halyemsites major
omit
sand, yellow buff, streaks dark gray to dark brownish gray shale
sand, yellow buff, laminated
Shale, dark gray
Sand, gray to greenish gray soft dirty
Yellow sulphur zone
ELK BUTTE MEMBER ?
Shale, olive-gray, fissile
Sand nodules
Sh, medium gray, sandy
Shale, dark gray
Shale, medium gray, streaks sand
Shale, medium gray, hard, blocky
Shale, dark gray, Micaceous
Virgin Creek
BADGER MEMBER ?
UPPER PURPLE HILLS
FOX HILLS
B


Sand, gray, soft, dirty. log zone at top -
Halymenites major
Sand, yellow tuff, streaks dark gray to dark brownish gray shale
Sand, yellow buff, laminated
Shale, dark gray
Sand, gray to greenish gray soft dirty
Yellow sulphur zone
ELK BUTTE MEMBER ?
Shale, olive-gray, Fissile
Sand nodules
Sh, med-dk gray, sandy
Shale, dark gray
Shale, medium gray, streaks sand
Shale, medium gray, hard, blocky
Shale, dark gray, Micaceous
Virgin creek
MEMBER ?
Shale, dark gray, sticky
PIERRE
FOX HILLS

Brad's composite of shelf facies of F.H.

Sep. of Colgate SS not valid on lithologic grounds, only basis for it is Halymenites.
Base of F.H. drawn at highest yellow sulphur zone; this does not hold.
Obviously hazy on Pierre members.

Composite Section — Pierre, F.H. + Lance
Shelf facies
From Braclish.